

In re Application of:
Berlin et al.
Application No.: 10/748,526
Filed: December 29, 2003
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PATENT
Atty Docket No.: INTEL1170(P15621)

Amendments to the Claims

Please cancel claims 5-11, 16-19 and 25-29 without prejudice or disclaimer.

Please amend claims 1, 15 and 20 as indicated in the listing of claims.

The listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1. (Currently amended) A surface analysis device for identifying characteristics or properties of molecules by simultaneously scanning nanocodes on a surface of a substrate, comprising:

a scanning array capable of simultaneously scanning the nanocodes on the surface of the substrate; and

an analyzer coupled with the scanning array capable of receiving simultaneously scanned information from the scanning array and identifying molecules associated with the nanocodes.

2. (Original) The device of claim 1, wherein simultaneously scanning includes measuring the friction characteristics of the substrate and the nanocodes.

3. (Original) The device of claim 2, wherein the scanning array includes two or more atomic force microscopy (AFM) tips.

4. (Original) The device of claim 3, wherein the scanning array is a 3x3 array of AFM tips.

Claims 5-11. (Canceled)

12. (Original) The device of claim 1, wherein the molecules include DNA molecules.

13. (Original) The device of claim 1, further comprising a substrate holder.
14. (Original) The device of claim 1, wherein the nanocodes include molecular assay labels.
15. (Currently amended) A surface analysis device for identifying characteristics or properties of molecules by simultaneously scanning nanocodes on a surface of a substrate, comprising:
a substrate holder;
a scanning array proximate the substrate holder capable of moving in relation to the substrate holder and simultaneously scanning nanocodes on the surface of the substrate; and
an analyzer coupled with the scanning array capable of receiving simultaneously scanned information from the scanning array and identifying molecules associated with the nanocodes.

Claims 16-19. (Canceled)

20. (Currently amended) A method of identifying characteristics or properties of molecules by simultaneously scanning nanocodes on a surface of a substrate, comprising:
providing a substrate with nanocodes thereon; and
simultaneously scanning the nanocodes using a surface analysis device having a scanning array.
21. (Original) The method of claim 20, further comprising:
receiving the scanned information from the scanning array with an analyzer; and
identifying the molecules associated with the nanocodes.

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22. (Original) The method of claim 20, wherein simultaneously scanning includes measuring the friction characteristics of the substrate and the nanocodes.

23. (Original) The method of claim 22, wherein the scanning array includes two or more atomic force microscopy (AFM) tips.

24. (Original) The method of claim 23, wherein the scanning array is a 3x3 array of AFM tips.

Claims 25-29. (Canceled)

30. (Previously presented) The method of claim 20, wherein the nanocodes include one or more nanotube assemblies having organic elements.

31. (Previously presented) The method of claim 20, wherein the nanocodes include one or more nanotube assemblies having inorganic elements.

32. (Previously presented) The method of claim 20, wherein the nanocodes include one or more nanotube assemblies having biochemical elements.

33. (Original) A method of accelerated scanning of nanocodes on a substrate to identify molecules associated with the nanocodes, comprising:

simultaneously scanning the nanocodes using a scanning array having two or more microscopy tips;

receiving the simultaneously scanned information from the scanning array with an analyzer; and

identifying the molecules associated with the nanocodes.

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34. (Original) The method of claim 33, wherein the microscopy tips are scanning tunneling microscopy (STM) tips.
35. (Original) The method of claim 33, wherein the microscopy tips are atomic force microscopy (AFM) tips.
36. (Original) The method of claim 33, wherein the microscopy tips are a combination of atomic force microscopy (AFM) and scanning tunneling microscopy (STM) tips.
37. (Original) The method of claim 33, wherein simultaneously scanning includes parallel scanning by the scanning array.